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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,742	07/30/2003	Alfred I-Tsung Pan	200206676-1	8919
22879 7590 07/16/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER TENTONI, LEO B	
			ART UNIT 1732	PAPER NUMBER
			MAIL DATE 07/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/629,742	<b>Applicant(s)</b> PAN ET AL.	
	<b>Examiner</b> Leo B. Tentoni	<b>Art Unit</b> 1732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17, 21-25 and 31-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 21-25 and 31-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04 May 2007 has been entered.

***Specification***

2. The disclosure is objected to because of the following informalities: In paragraph [0005], line 4, "102" should be - - 104 - - (the scanning device is numeral 104, not the bath or vat 102).

Appropriate correction is required.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: STEREOLITHOGRAPHIC METHOD FOR FORMING THREE-DIMENSIONAL STRUCTURE.

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***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 21-25 and 31-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 21, lines 12-13, "solidifying the viscous liquid" (emphasis added) is not supported by the originally-filed specification and thus, constitutes new matter (the originally-filed specification does support polymerization, see paragraph [0023]).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 9-11, 14, 15 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ederer et al (U.S. Patent 6,838,035 B1) in combination with Moszner et al (U.S. Patent 6,939,489 B2).

Ederer et al (see the entire document, in particular, col. 2, line 42 to col. 10, line 53) teaches a process of making a three-dimensional product as claimed, except that Ederer et al does not teach first and second different liquefied materials (Ederer et al teaches a single liquefied material), which is taught by Moszner et al (see the entire document, in particular,

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col. 4, lines 5-7; col. 5, lines 44-52; claim 1) and such would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Ederer et al in view of Moszner et al principally in order to manufacture a three-dimensional product from various materials with a low investment cost.

9. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ederer et al (U.S. Patent 6,838,035 B1) in combination with Moszner et al (U.S. Patent 6,939,489 B2) as applied to claims 1-3, 9-11, 14, 15 and 36 above, and further in view of Jang et al (U.S. Patent 6,405,095 B1).

Jang et al (see the entire document, in particular, col. 6, lines 11-20; col. 7, lines 19-28; col. 13, lines 47-68; col. 14, lines 1-26; col. 19, lines 53-67; col. 20, lines 1-10) teaches a process of making a three-dimensional product including the use of first and second materials of various types, including metals, and such would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Ederer et al in view of Jang et al principally in order to manufacture a three-dimensional product from various materials with a high build rate and part accuracy.

10. Claims 12, 13, 16, 17 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ederer et al (U.S.

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Patent 6,838,035 B1) in combination with Moszner et al (U.S. Patent 6,939,489 B2) as applied to claims 1-3, 9-11, 14, 15 and 36 above, and further in view of Fink et al (U.S. Patent 5,510,066 A).

Fink et al (see the entire document, in particular, col. 3, lines 15-60; col. 17, lines 20-34 and 60-68) teaches a process of making a three-dimensional object including the use of copper as a material, and such would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Ederer et al in view of Fink et al principally in order to manufacture a three-dimensional object from various materials and have desired characteristics and/or properties.

11. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ederer et al (U.S. Patent 6,838,035 B1) in combination with Moszner et al (U.S. Patent 6,939,489 B2) as applied to claims 1-3, 9-11, 14, 15 and 36 above, and further in view of Edie et al (U.S. Patent 6,579,479 B1).

Edie et al (see the entire document, in particular, col. 3, lines 1-4) teaches a process of making a three-dimensional product including the use of silver and tin solder as materials, and such would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Ederer et al in view of Edie et al principally in order to manufacture

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a three-dimensional object from various materials and have desired characteristics and/or properties.

12. Claims 21, 25 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ederer et al (U.S. Patent 6,838,035 B1).

Ederer et al (see the entire document, in particular, col. 2, line 42 to col. 10, line 53) teaches a process of making a three-dimensional product as claimed, except that Ederer et al does not explicitly teach solidifying any viscous liquid remaining in the voids, which would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Ederer et al principally because at least some small amount of viscous (support) liquid remains in the voids, and this small amount of viscous liquid solidifies (along with the rest of the three-dimensional object).

13. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ederer et al (U.S. Patent 6,838,035 B1) as applied to claims 21, 25 and 31-35 above, and further in view of Jang et al (U.S. Patent 6,405,095 B1).

Jang et al (see the entire document, in particular, col. 6, lines 11-20; col. 7, lines 19-28; col. 13, lines 47-68; col. 14, lines 1-26; col. 19, lines 53-67; col. 20, lines 1-10) teaches a process of making a three-dimensional product including the use



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of first and second ejected materials to form layer portions, and such would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Ederer et al in view of Jang et al principally in order to manufacture a three-dimensional object from various materials and have desired characteristics and/or properties.

#### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-17, 21-25 and 31-38 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo B. Tentoni whose telephone number is (571) 272-1209. The examiner can normally be reached on Monday - Friday (6:30 A.M. - 3:00 P.M.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina A. Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Leo B. Tentoni*

Leo B. Tentoni  
Primary Examiner  
Art Unit 1732

lbt